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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,743	04/02/2004	Massimo Padoan	38882/GM/cd	1541

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EXAMINER	
GLASS, ERICK DAVID	

ART UNIT	PAPER NUMBER
2837	

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/815,743	PADOAN, MASSIMO	
	Examiner	Art Unit	
	Erick Glass	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 April 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Objections

Claims 15,17, and 22 objected to because of the following informalities: The means for "moving a positon" is vague and unclear of what is being described. Appropriate correction is required.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "at least two wipers arriving simultaneously"(claims 15,17,22) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Response to Arguments

Applicant's arguments filed 4/21/06 have been fully considered but they are not persuasive. The applicant argues every major feature of the Welch references as not entirely discloses the features of applicant's independent claim. Welch measure the time of leading wiper and of the lagging wiper, compares the difference, and determines if synchronizing action needs to be taken. And reduces that error time, determines a duration of coasting, and comes up with a correction time.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3, 6, 8, 9, 11, and 14-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Welch (US 5,568,026).

With respect to claim 1, Welch discloses a synchronization device for at least two windshield wipers, where each wiper has a blade and is connected to an electric motor that oscillates each blade between two preset positions (Fig. 1a); a means for activating and deactivating the motor (Fig. 1b, #16 sends DMD and DB1); a means for signaling the transit and direction of each blade through a preset reference position (Fig. 1b, input to #s 22 and 23), a means for controlling the signals and driving the activation means

(Fig. 1b, #16; col. 3, lines 35-38), a means for determining, at each wipe, the wiping time for each of said wipers, a means for measuring, at each wipe, the lead time error of a faster wiper, a means for calculating, at each wipe, a correction time, where the correction time reduces the lead error, and said correction time is a function of the corresponding lead error, a means for identifying, at each wipe, the slower wiper, and a means for applying, at each wipe, each one of said correction times to said corresponding motor/gearmotor of each one of said at least one faster wiper which interrupt/reduce power of the corresponding motor/gearmotor and reduce the corresponding lead time error to as close as possible to zero (Fig. 1b, #16 has does all of the functions; col. 5, lines 14-37; cols.6/7, lines 40-67/1-22).

With respect to claim 2, Welch discloses the means for controlling the activation/deactivation means, the means for determining wiping time, the means for measuring lead error, the means for calculating the correction time, and the means for identifying the slower wiper are integrated in a single system (Fig. 1b, represents a single system).

With respect to claim 3, Welch discloses each means for applying the correction time is connected to a communication bus, which is connected to a remote control system (Fig. 1b, #24 is remote from #16).

With respect to claim 6, Welch discloses the means for applying correction times comprise the activation/deactivation means (Fig. 1, #16 performs both functions).

With respect to claim 8, Welch discloses the means for signaling the transit and direction comprise an automatic parking switch that emits a synchronization signal (cols. 1/2, lines 64-67/1-4).

With respect to claim 9, Welch discloses the means for applying the correction time comprises a switch that removes power from the motor (Fig. 1b, DBS 1 and DBS2 ground the motor winding, which effectively removes power; see col. 2, lines 28-36).

With respect to claim 11, Welch discloses the motor is a two-speed type (Fig. 1b, #24 controls motor puts motor in HI or LO speeds, respectively).

With respect to claim 14, Welch discloses a synchronization device for at least two windshield wipers, where each wiper has a blade and is connected to an electric motor that oscillates each blade between two preset positions (Fig. 1a); a means for activating and deactivating the motor (Fig. 1b, #16 sends DMD and DB 1); a means for signaling the transit and direction of each blade through a preset reference position (Fig. 1b, input to #s 22 and 23), a means for controlling the signals and driving the activation means (Fig. 1b, #16; col. 3, lines 35-38), a means for determining, at each wipe, the wiping time for each of said wipers, a means for measuring, at each wipe, the lead time error of a faster wiper, a means for calculating, at each wipe, a correction time, where the correction time reduces the lead error, and said correction time is a function of the corresponding lead error, a means for identifying, at each wipe, the slower wiper, and a means for applying, at each wipe, each one of said correction times to said corresponding motor/gearmotor to reduce said lead time error(Fig. 1b, #16 has does all of the functions; col. 5, lines 14-37; cols.6/7, lines 40-67/1-22).

With respect to claim 15,and 17 Welch discloses comprising means (fig. 1b, 16) for moving a position at which said at least two wipers arrive simultaneously (column 1, lines 22-25).

With respect to claim 16 and 18, Welch discloses wherein said means for identifying said slower wiper are configured to identify said slower wiper based upon a value and a sign of said correction time (columns 6/7, lines 40-67/1-22).

With respect to claim 19, Welch discloses signaling a transit movement of each one of said blades through a preset reference position (column 2, lines 19-27); measuring, at each wipe, and in relation to the transit of said at least two wipers, a lead time error of each one of said at least two wipers that is faster with respect to a slower wiper of said at least two wipers; calculating, at each wipe, a correction time in order to reduce said lead time error of each one of said at least two wipers that is faster with respect to a slower wiper of said at least two wipers such that each correction time is a function of said corresponding lead time error; and applying, at each wipe, each one of said correction times to a respective said motor/gearmotor to reduce said lead time error (Fig. 1b, #16 has does all of the functions; col. 5, lines 14-37; cols.6/7, lines 40-67/1-22).

With respect to claim 20, Welch discloses comprising identifying, at each wipe, said slower wiper, based upon a value and a sign of said time (columns 6/7, lines 40-67/1-22).

With respect to claim 21, Welch discloses comprising determining, at each wipe, a wiping time for each one of said wipers (column 4, lines 13-31).

With respect to claim 22, Welch discloses comprising moving a position at which said at least two wipers arrive simultaneously (column 1, lines 22-25).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welch as applied to claims 1 and 3 above, and further in view of Braun et al. (US 6,218,741).

Welch does not disclose the limitations of claims 4 and 5.

Braun et al. discloses a windshield wiper system that uses a radio link to control a control unit (Fig. 1, #14 controls #10). The motivation to use a radio to control a controller is so an operator can easily change specifications or parameters based on system requirements (col. 2, lines 63-67).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to implement a radio link to control the microprocessor of Welch, which means that the radio link would control the means for applying the correction time, the means for controlling the activation/deactivation means, the means for determining the wiping time, the means for identifying the slower wiper, and the means for measuring the lead time error. The motivation to implement a radio link into

the system of Welch is so an operator can easily change the specifications or parameters from, for example, the cabin of an automobile, as taught by Braun et al.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Welch as applied to claim 1 above, and further in view of Kuhbauch (US 5,157,314).

Welch does not disclose the limitations of claim 7.

Kuhbauch discloses using proximity switches to determine the position of the wiper at various points as it moves across the windshield. The motivation to use proximity switches is because they can be arranged in the windshield border, at the edge of the windshield, or in the body of the vehicle (col. 6, 11. 44-55). This provides the advantage of allowing flexibility in design choice.

Therefore, it would have been obvious to one having ordinary skill in the art at the time, of the invention to use proximity switches to supply the wiper position signals to the microcomputer in the device of Welch, thereby providing the advantage of allowing flexibility in design choice, as taught by Kuhbauch.

Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welch as applied to claim I above, and further in view of Hayden (US 5,630,009).

Welch does not disclose the limitations of claims 10 and 12.

With respect to claim 10, Hayden discloses the means for activating/deactivating the motor comprises two switches in parallel, where one of the parallel configurations reduces the power supply to the motor (Fig. 3, #230 has a contact, which is interpreted as two switches in parallel; contact reduces the power supply to zero in the OFF position), and the other parallel configuration selects the rotation rate (Fig. 3, #104

controls the fate - either HI or LO). The motivation to use two switches in parallel is to prevent motor stalling, overheating, and burnout (abstract).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to replace each of the switching devices of Welch (Fig. 1b, R1 and M), with two switches in parallel, thereby providing the advantage preventing motor stalling, overheating, and burnout, as taught by Hayden.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Welch as applied to claim 1 above, and further in view of Ishikawa et al. (4,742,280).

Welch does not disclose the limitations of claim 13.

Ishikawa et al. disclose the means for activating/deactivating comprising two switches (Fig. 2, #103 and #102). The switches are configured in series, he first switch 102 activating and deactivating the motor (col. 3, lines 23-55) and the second switch 103 controlling the motor speed. The motivation to implement the switches in series as described above is so the user can control both the speed and direction of the motor. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to implement switches in series into the Welch device, thereby providing the advantage of allowing a user to control both the speed of the motor/wipers and the direction of rotation, as taught by Ishikawa et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Glass whose telephone number is 571-272-8395. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on 571-272-1988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EG